

VO1CF-E  
VOLTMETER, ANALOG

**1. GENERAL.** This procurement requires a portable, solid-state analog rms voltmeter.

**2. CLASSIFICATION.** Type II, Class 5, Style E, and Color R in accordance with MIL-T-28800 for shipboard applications.

**3. MEASUREMENT REQUIREMENTS.** The equipment shall be capable of measuring rms voltage within the minimum specifications and accuracies specified below. The meter shall respond to the average value of the input signal and shall be calibrated in rms volts and decibels.

**3.1 Frequency range.** 20 Hz to 4 MHz.

**3.2 Voltage range.** 0.1 mV to 1 kV full scale.

**3.2.1 Voltage accuracy.**  $\pm 2\%$  of indication.

**3.3 Decibel measurement.** Range: -80 to +60 dB where 0 dB equals 1V.

**3.4 Input RC.** 10 megohms shunted by 30 pF, nominal.

**3.5 Maximum input.** 300 Vdc or 1 kVrms.

**3.6 Floating input.** The signal ground must be isolated to at least  $\pm 300$  Vdc + peak ac from chassis ground.

**3.7 Output amplifier.** An output proportional to the meter voltage indication shall be provided.

**3.7.1 Output level.** 1 Vrms, open circuit, for full-scale meter deflection (0.5 Vrms into 600 ohms).

**3.7.2 Output impedance.** 600 ohms.

**3.8 Filter.** 100 kHz low-pass, switchable.

**3.9 Noise.** The noise referred to input when terminated with 1 kilohm shall not exceed 5 uV with low-pass filtering and 30 uV without filtering.

**3.10 Meter.** The meter shall have a taut-band movement and mirror-backed scales. The uppermost scale shall be linear dB with 0 dB equalling 1 Vrms. A logarithmic rms volts scale shall be provided. A digital indicating meter is not acceptable for this application.

**4. GENERAL REQUIREMENTS.**

**4.1 Power source.** MIL-T-28800 nominal and dc internal power source requirements are invoked as detailed below.

**4.1.1 Nominal power source.** Maximum power consumption: 5W.

**4.1.2 DC internal power source:** Internal batteries and charger are required. Minimum operating time shall be 8 hours following a maximum recharge time of 16 hours. A front-panel battery state indicator is required.

**4.3 Weight.** 10 kg (22 lb) maximum.

**4.4 Lithium batteries.** Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.